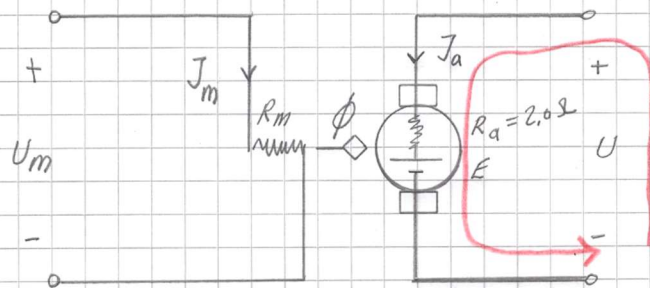


A5.14



FALL I

FALL II

$$U_I = 200 \text{ V}$$

$$U_{II} = 170 \text{ V}$$

$$J_{aI} = 10 \text{ A}$$

$$J_{aII} = ?$$

$$E_I = ?$$

$$E_{II} = ?$$

$$n_I = 1000 \text{ RPM}$$

$$n_{II} = ?$$

$$J_{mII} = J_{mI} \Rightarrow \Phi_{II} = \Phi_I$$

a)

$$M = k_2 \Phi J_a$$

$$\frac{M_I}{M_{II}} = \frac{\cancel{k_2} \Phi_I J_{aI}}{\cancel{k_2} \Phi_{II} J_{aII}}$$

$$M_{II} = M_I \Rightarrow$$

$$1 = \frac{10}{J_{aII}} \Rightarrow \underline{J_{aII} = 10 \text{ A}}$$

b)

$$+U - R_a J_a - E = 0 \dots (1)$$

$$\text{FALL I} \Rightarrow +200 - 2,0 \cdot 10 - E_I = 0 \Rightarrow \underline{E_I = 180 \text{ V}}$$

$$\text{FALL II} \Rightarrow +170 - 2,0 \cdot 10 - E_{II} = 0 \Rightarrow \underline{E_{II} = 150 \text{ V}}$$

c)

$$E = k_1 \Phi n$$

$$\frac{E_I}{E_{II}} = \frac{k_1 \Phi_I n_I}{k_1 \Phi_{II} n_{II}}$$

$$\frac{180}{150} = \frac{1000}{n_{II}} \Rightarrow \underline{n_{II} \approx 833 \text{ RPM}}$$